

Figure 8

APR 6 1 2004

8A

- 1) V2R
- 2) V2R-S362X
- 3) V2R-SSSTSS /AAAAAA
- 4) V2R-TSS/AAA
- 5) V24-SSS/AAA
- 6) β_2 AR-V2R-SSS/AAA
- 7) β_2 AR
- 8) β_2 AR413-V2R10
- 9) β_2 AR360-V2R10

CAGRRTTPSLGPQDESCTTASSSLAKDTSS
 CAGRRTTPSLGPQDESCTTA
 CAGRRTTPSLGPQDESCTTAAAAA LAKDAAA
 CAGRRTTPSLGPQDESCTTASSSLAKDAAA
 CAGRRTTPSLGPQDESCTTAAAALAKDTSS
 CAGRRTTPSLGPQDESCTTAAAALAKDTSS
 CLRRSSLIKAYGNGYSSNGNTGEQSGYHVEQEKENKLLCEDLPL
 GTEDFVGHQGTVPSDNIDSQGRNCSTNDSTU
 CLRRSSLIKAYGNGYSSNGNTGEQSGYHVEQEKENKLLCEDLPL
 GTEDFVGHQGTVPSDNIDSQGRNCSTNDSSLSSSLAKDTSS
 CLRRSSLIKAYGNGYSSNGNTGEQSGYHVEQEKENKLLCEDLPL

8B

V2R	NPWIYASFSSSVSEELRSLLCCARGRTPPSLGPQDESCTTASSS AAA-1 ----- AAA-2 -----	LAKDSS AAA----- AAA-----
NTR-1	NPILYNLVSANFRQVFLSTLACLCPGMWRHRRKKRPTFSRKPNMS AMAA----- AAA-----	NHAFSTSATRETTLY A-AA----- AAA-----
OTR	NPWIYMLFTGHLFHELVQRFLLCSASYLKGRRLGETSAS AAAA----- AAA-1 ----- AAA-2 -----	KKSNSSSFVLSHRSSSQRSQCSQPSSTA AAA----- AAA----- AAA-----
SPR	NPIIYCCLNDRFRLGFKHAFRCCPFISAGDYEGLEMKSTRYLOTQGVYKVSRIETTIST 383X 355X 325X AAIAA APAA	VVGAAHEEEPEDGPKATPSS <u>LKLTSNCSSRSDSKTMTESFSS</u> NVLS X-----X X-----X AA-AA----- A-AA-----



Figure 10

10A. Amino acid sequence of the MOR-V2R chimera expressed from the pEArrB-1/MOR vector

MDSSTGPGNTSDCSDPLAQASCSPAPGSWLNLSHVDGNQSDPCGLNRTGLG
GNDSLCPQTGSPSMVTAITIMALYSIVCVVGLFGNFLVMYVIVRYTKMKTA
TNIYIFNLALADALATSTLPFQSVMYLMGTWPFGTILCKIVISIDYYNMFT
SIFTLCTMSVDRYIAVCHPVKALDFRTPRNAKIVNVCNWILSSAIGLPVMF
MATTKYRQGSIDCTLTFSHPTWYWENLLKICVFIFAFIMPIILIITVCYGLM
ILRLKSVRMLSGSKEKDRNLRRITRMVLVVAVFIVCWTPIHIVIYVIIKALI
TIPETTFQTVSWHFCIALGYTNSCLNPVLYAFLDENFKRCFREFC**AAARGR**
TPPSLGPQDESCTTASSSLAKDTSS

(Seq. ID No. 4)

10B. Amino acid sequence of the D1AR-V2R chimera expressed from the pEArrB-1/D1AR vector

MAPNTSTMDEAGLPAERDFSFRILTACFLSLLILSTLLGNTLVCAAVIRFR
HLRSKVTNFFVISLAVSDLLAVLVMPWKAVAEIAGFWPFGSFCNIWVAFD
IMCSTASILNLCVI SVDYWAISSPFQYERKMTPKAAFILISVAWTLVLI
SFIPVQLSWHKAKPTWPLDGNFTSLEDTEDDNCCTRLSRTYAISSSLISFY
IPVAIMIVTYTSIYRIAQKQIRRI SALERA AVHAKNCQTTAGNGNPVECAQ
SESSFKMSFKRETKVLKTL SVIMGVFVCCWLPFFISNCMVPFCGSEETQPF
CIDSITFDVFVWFGWANSSLNPIIYAFNADFQKAFSTLLGCYRLC**AAARGR**
TPPSLGPQDESCTTASSSLAKDTSS

(Seq. ID No. 5)



Figure 10, pg. 2

10C. Amino acid sequence of the 5HT1AR-V2R chimera expressed from the pEArrB-1/5HT1AR vector

MDVLSPGQGNNTSPPAPFETGGNTTGISDVTVSYQVITSLLLGTIFCAV
LGNACVVAIAALERSLQNVANYLIGSLAVTDLMVSVLVLPMAALYQVLNKW
TLGQVTCDLFIALDVLCCCTSSILHLCAIALDRYWAITDPIDYVNKRTPRRA
AALISLTWLGFLISIPPMLGWRTPEDRSDPDACTISKDHGYTIYSTFGAF
YIPLLLMLVLYGRIFRAARFRIRKTVKKVEKTGADTRHGASPAPQPKKSVN
GESGSRNWRLGVESKAGGALCANGAVRQGDDGAALLEVIEVHRVGNSEHLP
LPSEAGPTPCAPASFERKNERNAEAKRMALARERKTVKTLGIIMGTFILE
WLPFFIVALVLPFCESSCHMPTLLGAI
**INWLGYNSNLLNPVIYAYFNKDFQNAFKKI IKCNFCAAARGRTPPSLGPQD
ESCTTASSSLAKDTSS**

(Seq. ID No. 6)

10D. Amino acid sequence of the β 3AR-V2R chimera expressed from the pEArrB-1/ β 3AR vector

MAPWPHENSSLAPWPDLPTLAPNTANTSGLPGVPWEAALAGALLALAVLAT
VGGNLLVIVAIATPRLQTMTNVFVTSLAAADLVMGLLVVPPAATLALTGH
WPLGATGCELWTSVDVLCVTASIETLCALAVDRYLAUTNPLRYGALVTKRC
ARTAVVLVWVVSAAVSFAPIMSQWWRVGADAEAQRCHSNPRCCAFASNMPY
VLLSSSVSFYLPPLLVMFLFYARVFVVAUTQLRLRGELGRFPPEESPPAPS
RSLAPAPVGTCAAPPEGVPACGRRPARLLPLREHRALCTLGLIMGTFTLCWL
PFFLANVLRALGGPSLVP GPAFLALNWLGYANSAFNPLIYCRSPDFRSAFR
RLLCRCAAARGRTPPSLGPQDESCTTASSSLAKDTSS

(Seq. ID No. 7)

10E. Amino acid sequence of the Edg1R-V2R chimera expressed from the pEArrB-1/Edg1R vector

MGPTSVPLVKAHRSSVSDYVNYDIIVRHYNYTGKLNISADKENSIKLTSVV
FILICCIFIILENIFVLLTIWKTKKFHRPMYYFIGNLALS DLLAGVAYTANL
LLSGATTYKLTPAQWFLREGSMFVALSASVFSLLAIAIERYITMLKMKLHN
GSNNFRLFLLISACWVISLILGGLPIMGWNCISALSSCSTVLPLYHKHYIL
FCTTVFTLLLSSIVILYCRYSLVTRTRSRRLTFRKNISKASRSSEKSLALL
KTVIIVLSVFIACWAPLFILLLDVGCKVKTCDILFRAEYFLVLAVLNSGT
**NPIIYTLTNKEMRRAFIRIMSCCKCAAARGRTPPSLGPQDESCTTASSSLA
KDTSS**

(Seq. ID No. 8)



Figure 11

11A. Nucleotide sequence of the β 2AR-V2R chimera

atggggcaacccgggaacggcagcgccttcttgcgtggcacccaatagaagccatgcgcggacc
acgacgtcacgcagcaaaggacgagggtgtgggtggcatggcatgtcatgtctctcat
cgtcctggccatcgtttggcaatgtgtgtcatcacagccattgccaagttcgagcgtctg
cagacggtcaccaactacttcatcacttactggcctgtgtcatctggcatggcctggcag
tggtgccttggggcccccattttatgaaaatgtggactttggcaacttctggcga
gtttggacttccattgtatgtgtgcgtcacggccagcattgagaccctgtgcgtatcgca
gtggatcgctactttccattacttcacccttcaagtaccagagcctgtgaccaagaataagg
cccgggtatcattctgtatgggtgtggattgtgtcaggccttaccccttcttgccttccattcagat
gcactggtaccgggcccacccaccaggaagccatcaactgctatgccaatgagacactgtgtgac
ttcttcacgaaccaagccatgccttgcattgcctttccatcgatgtccttctacgttccccgttga
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atctgaggggccgttccatgtccagaacccatgtccagggtggagcaggatggcggacgggcat
ggactccgcagatcttccaagttctgttgcgttgcaggagcacaagccctcaagacgtttaggcatca
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ggataacctcatccgtaaaggagttacatccctttaattggataggctatgtcaattctgg
ttcaatcccttatctactgcccggccatgtccaggattgccttccaggagcttctgtg
cccgggacgcacccacccagcctgggtccccaaagatgagtcctgcaccaccgcagctc
cctggccaaggacacttcatcgta
(SEQ ID No. 9)

11B. Nucleotide sequence of the MOR-V2R chimera

atggacagcagcacccggcccaggaaacaccagcgactgctcagacccttagctcaggcaagtt
gctcccccacccgtggcttgcgtcaacttgcctggcttgcgttgcgtggcaaccaggatccatg
cggtctgaaccgcaccgggttgcgtggcaacgcacccgtgtgcctcagaccggcagcccttcc
atggtcacagccattaccatcatggcccttactctatcggtgttagtggccttgcggaa
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acatgttaccaggatattcaccctctgcaccatgagcgtggaccgttgcgttgc
cccaggtaaaggccctggatttccgttccggaaatgcacccatgtcaacgtctgc
atcctcttctgcgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgc
ccatagattgcacccttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgc
tgtctttatcttcgtttcatcatgcgttgcgttgcgttgcgttgcgttgcgttgc
ttacgactcaagagcggttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgc
tcacccggatgggtgtgggtgtgggtgttgcgttgcgttgcgttgcgttgcgttgc
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tgcattgtttgggttacacgaacagctgcgttgcgttgcgttgcgttgcgttgc
acttcaagcgatgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgc
tccccaaagatgagtcctgcaccaccgcagctccctggccaaggacacttc
atcgta
(SEQ ID No. 10)

11C. Nucleotide sequence of the D1AR-V2R chimera

atggctcctaacaacttaccatggatgaggccggctgccagcggagagggatttctcctttc
 gcacccctcacggcgttccctgtcactgctcatcctgtccactctcctggcaatacccttgc
 ctgtgcggccgtcatccgggttcgacacacgtggatggccaagggtgaccaacttcttgc
 ttagctgtgtcagatcttgggtctgtccctggatggccaagggtgaccaacttcttgc
 ctggctttggcccttgggtcctttgtaaacatctgggttagccttgcacatcatgtgt
 ggcgtccattctgaacctctgcgtatcagcgtggacaggtaactggctatccagcccttc
 cagttatggagagaaatgaccccaaaggcgccttcatcctgattagcgttagcatggactctgt
 ctgtccttatatccttcatcccgatcagactaagctggcacaaggcaagccacatggccctt
 ggtatggcaatttacccctggaggacaccgaggatgacaaactgtgacacaagggtgagg
 acgtatgccatttcatgtccctcatcagctttacatcccgtagccattatgatcgtcacct
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 aaagttccttaagatgtcctcaagaggagacgaaagtctaaagacgctgtctgtatcat
 ggggtgtttgtgtctggctcccttcatctcgaactgtatggtgccttgc
 tctgaggagaccaggccattctgcattccatcacccatcgtgtttgtgtgggt
 gggcaattctccctgaacccattattatgtctttaaatgacttccagaaggcgtc
 aaccctttaggatgctacagactctgcggccgacgggacgcacccacccagc
 ccccaagatgagtcctgcaccaccgcaggctccctggccaaggacacttcatcgt
 (SEQ ID No. 11)

11D. Nucleotide sequence of the 5HT1AR-V2R chimera

atggatgtgctcagccctggtcagggcaacaacaccacatcaccacccggctcccttgc
 gccggcaacactactggtatctccgacgtgaccgtcagctaccaagtgtatcacctctgt
 gggcacgctcatcttctgcgcgggtctggcaatgcgtgcgtggctgc
 cgcattccctgcagaacgtggcaattatcttattggctttggcggtcaccgc
 atgggtttgtgtccatggccgcgtgtatcagggtctcaacaagtggacactggcc
 aacctgcgacactgttcatgcgcctcgacgtgtgcacccatccatctgc
 gccatcgcgctggacaggtaactggccatcaggacccatcgactacgt
 gacacaaggaggacgc
 cccggcgccgcgtgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgc
 catgcgtggctggcgaccccggaagaccgcgcgcgcgcgcgcgc
 catggctacactatcttccacccattggagcttctacatccgc
 tgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgc
 tctatggcgcatattcccgagctgcgcgcgcgcgcgcgcgc
 gacccggagccggacaccgcgcgcgcgcgcgcgcgcgcgc
 gagtcggggagccggacaggtaactggaggctggcggtgg
 gagagacggctgggggtgtctgtgcgc
 atggcgccgtgaggcaagggtgacgatggcgccgc
 cccactccaaagagacacttgcctctgc
 cccaggctgggtccccaaggatgagtcctgc
 caccaccgcaggctccctggccaagg
 acttcatcgt
 (SEQ ID No. 12)



11E. Nucleotide sequence of the C3AR-V2R chimera

atggctccgtggcctcacgagaacagctcttgcggccatggccggaccccccacccctggcgc
ccaataccgccaacaccagtggctgccagggttccgtggaggccctagccggggccct
gctggcgctggcggtgctggccaccgtggaggcaacctgtgtcatgtgcgcacccctgg
actccgagactccagaccatgaccaacgtgtcgacttcgtggccgcagccgacccgtgtga
tgggactcctggtggtgccggccggccacccgtggcgctgactggccactggccgtggcgc
cactggctgcagactgtgacccgtggacgtgtgtgaccgcccacccatcgaaaccctg
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gcccattatgagccagtgtgtggcgtagggccgacgcccggaggcgcagcgtgcacccaa
ccgcgcgtgtgtgcgcggggagactggccgtttccgcggaggagtctccgcggccgtcgcc
tctctggccccggcccggtgggacgtgcgtccgcggaaagggtggccgtcgccggc
ggcccgccgcgcctgcctccggaaacaccggccctgtgcacccgtggctcatatgg
cacccatctctgtgtgtgcgtcccttcgtggccctgaactggctaggatgtccatttc
tctcttagtcccggcccggtttccgtggccctgaactggctaggatgtccatttc
accgcgtcatctactgcgcagccggacttcgcagcgcctccgcgtttctgtgcgc
cgccgcgcacggggacgcacccacccagcgtgggtcccaagatgagtcctgcaccaccgc
gctccctccctggccaaggacacttcatcgta

(SEQ ID No. 13)

11F. Nucleotide sequence of the Edg1-V2R chimera

atggggccaccagcgtccgctggtaaggcccaccgcagctcggtctctgactacgtcaact
atgatatcatcgccggcattacaactacacggaaagctgaatatcagcgccgacaaggagaa
cagcattaaactgacccgtgggttcattctcatctgctgtttatcatctggagaacatc
tttgcgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgt
atctggccctctcagacccgttggcaggagttagcctacacagctaacctgtcttgc
caccacccatacaagctcactccgcggcgtgggttctgcggaaaggaggatgtttgtgg
tcaggcctccgtgttcagtcctcgccatcgccatgtgcgttatcacaatgtgtgt
aactccacaacggggagcaataacttcgcctttctgtcttaatcagcgcctgtgg
cctcatctgggtggcctgcctatcatggctggactgcattgcgtgtccagctgc
accgtgtgcgcgttaccacacaaggcactatccttcgtgcaccacggcttcact
tgcgtgtccatcgatctgtactgcagaatctacttcgttgcaggactcgag
gacgttccgcaagaacatccaaaggccagccgcagctctgagaagtcgc
accgttaattatcgccatcgatccgttgcgcgttgcgcgttgcgcgttgc
tggatgtggctgcaggtaagatgtgcacatcttcgttgcaggacttc
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gccttcatccggatcatgtcctgcgttgcaggccgcacggggacgc
tgggtcccaagatgagtcctgcaccaccgcagctccctggccaagg
a
(SEQ ID No. 14)